

**ABSTRACT OF THE DISCLOSURE**

A counter-flow aggregate dryer for an asphalt plant is equipped with a secondary feeder for introducing RAP or virgin materials intermediate the ends of the combustion zone of the dryer. Nonveiling flights in the combustion zone shield material carried through the combustion zone from direct radiant heat and veiling flights in the drying zone create a curtain of falling aggregates heated by a hot gas stream flowing in a countercurrent direction from a primary burner. A secondary burner elevates the temperature of the exhaust gas above its dew point temperature before delivery to the baghouse.

## **NUMERALS**

### **PRIOR ART**

drum mixer 10  
support frame 12  
motor driven rollers 14  
trunnion rings 16  
rotational arrow 17  
aggregate feeder 18  
exhaust port 20  
discharge housing 22  
combustion assembly 24  
blower 26  
burner head 28  
flights 30  
recycle feed assembly 34  
    stationary box channel 35  
    feed hopper 36  
    flexible seals 37  
    scoops 38  
    scoop opening 40  
sawtooth flighting 42  
conveyor 44  
injection tube 46

### **INVENTION**

cylindrical drum 50  
support frame 52  
drive rollers 54  
trunnion rings 56  
aggregate feeder 58  
exhaust port 59  
ductwork 60  
air pollution control equipment 61  
discharge housing 62  
combustion assembly 64  
burner head 68  
flame envelope 69  
material flights 70  
recycle feed assembly 72  
    box channel 75  
    support legs 75a  
    feed hopper 76

- flexible seals 77
- scoop openings 78
- combustion flighting 80
- mixer flighting 82
- auger 84
- injection tube 86
- secondary combustion assembly 88
  - supply line 90
  - blower 92
  - burner head 94
  - thermocouple 95
  - process controller 96
- mixer cylinder 100
- frusto-conical section 102
- support frame 104
- mixer drive rollers 106
- trunnion rings 108
- rotary mixer 110
- batch plant pugmill mixer 112
- continuous pugmill mixer 114
- other mixing device 116
- scoop plates 120
- rotational arrow 122
- trailing shields 124
- inwardly extended legs 126
- flighting plate 128
  - leading lip 128a
  - main body portion 128b
  - trailing lip 128c
- spoke frame 130
  - continuous ring 130a
  - holes 130b
  - attachment legs 130c
- upstanding plates 132
- extension posts 134
- open ended pipes 136